

Notice of Allowability

Application No.

10/612,290

Examiner

Ramnandan Singh

Applicant(s)

PATTERSON, JAMES D.

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Dec 01, 2006.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This action is in response to applicant's response filed on Dec. 21, 2006. **Claims 1-31** are pending in the present application.

2. EXAMINER'S AMENDMENT/COMMENT

Applicant has agreed to the following amendment during his telephonic interview with the Examiner held on June 13, 2007:

(i) Claim 1, line # 9 , after "level" -- , wherein the bias voltage is a function of a mismatch in transition times between the first and second output voltages— has been inserted.

(ii) Claim 14, lines # 5-6, delete "the cross-over voltage and the equidistant voltage".

(iii) Claim 14, line # 5, after "between" – switching times of the first and second output voltages—has been inserted.

The Interview summary is enclosed.

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance:

This invention relates to an apparatus comprising a feedback circuit for use with a differential transceiver that locks the cross-over voltage substantially to a point equidistant between the maximum and minimum voltage of the output of the transceiver transmitter. Claim 1 identifies the uniquely distinct feature of the apparatus, comprising: a feedback circuit to monitor the first and second output voltages and apply a bias voltage to at least one of the first and second output drivers to vary the point where the first and second output voltages cross-over as the input voltage changes from a first to a second level, wherein the bias voltage is a function of a mismatch in transition times between the first and second output voltages.

As such, claim 1 requires a bias voltage to be a function of a mismatch in transition times between the first and second output voltages. While the closest prior art, Fiedler [US 5,726,588], Shih [US 5,166,635], Liu [US 6,583,656 B1], and Krishnamurthy et al [US 6,617,892 B2] each teach differential output drivers having cross-over distortion, Fiedler using a cross-over adjustment circuit, Shih using a closed loop feedback, Liu using four feedback devices, and Krishnamurthy et al using feedback circuitry; none of them teach or suggest requiring a bias voltage to be a function of a mismatch in transition times between the first and second output voltages.

As such, , the prior art, either singularly or in combination fail to anticipate or render the above underlined limitation obvious. Therefore, claim 1 is indicated allowable.

Further, claims 14, 25 and 29 are essentially similar to claim 1 and are indicated allowable. Claims 2-13 being dependent from claim 1, claims 15-24 being dependent from claim 14, claims 26-28 being dependent from claim 25, and claims 30-31 being dependent from claim 29 are also indicated allowable.

4. The claims have been re-numbered as follows:

CLAIMS NUMBER (ORIGINAL)	CLAIMS NUMBER (FINAL)
1-2	1-2
4-7	3-6
9-12	7-10
8	11
3	12
13	13
14-15	14-15
19-24	16-21
16-18	22-24
25-31	25-31

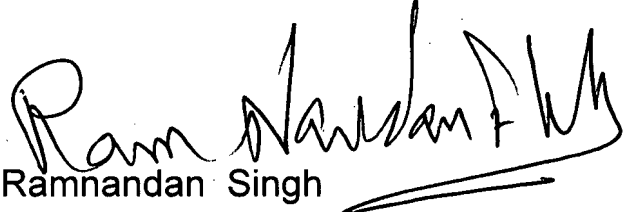
Claim no. 1 along with figure number 1 will be published in the Official Gazette.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ramnandan Singh
Examiner
Art Unit 2614